

Claims

1. (Currently amended) A method for optimizing an active decision making process that requires selecting actions at a sequence of choice points, comprising:
 - a. creating a simulation model for the active decision making process comprising the potential effects of an action;
 - b. generating a plurality of alternative ~~decisions~~actions at a choice point in the active decision making process;
 - c. for one of these alternative ~~decisions~~actions, generating a simulation of the future decision making process using the simulation model; and
 - d. analyzing the result of this simulation to select ~~a decision~~an action for the choice point.
2. (Original) The method of claim 1, wherein the simulation model comprises a stochastic component.
3. (Original) The method of claim 2, wherein the stochastic component comprises a policy for choosing among alternative decisions.
4. (Currently amended) The method of claim 1, wherein two simulations ~~for an alternative decision~~are analyzed interleaved such that one simulation starts before another ends.
5. (Original) The method of claim 1, wherein the simulation model comprises of a Bayesian network.
6. (Currently amended) The method of claim 3~~1~~, wherein the ~~Bayesian network~~simulation model comprises a component selected from the group consisting of hierarchical variables, abstract data types, ~~differentials~~differential vector of previous states, user-defined functions, or POMDPsMarkov decision processes, partially-observable Markov decision processes, heuristics evaluation function, user model for simulating users of the active decision making process, execution model for simulating an external application, and control model for simulating the active decision making process.
7. (Original) The method of claim 1, further integrating the active decision making process with an external application.
8. (Original) The method of claim 7, wherein the external application comprises a simulation system.
9. (Original) The method of claim 7, wherein the simulation model is updated using the data obtained by monitoring the external application.

10. (Original) The method of claim 1, wherein the simulation model is updated using the result of the simulation.
11. (Currently amended) A computer implemented system for optimizing an active decision making process that requires selecting actions at a sequence of choice points, comprising:
 - a. a simulation model for the active decision making process comprising the potential effects of an action;
 - b. generation of a plurality of alternative ~~decisions~~actions at a choice point in the active decision making process;
 - c. for one of these alternative ~~decisions~~actions, generation of a simulation of the future decision making process using the simulation model; and
 - d. analysis of the result of this simulation to select a ~~decision~~an action for the choice point.
12. (Original) The system of claim 11, wherein the simulation model comprises a stochastic component.
13. (Original) The system of claim 12, wherein the stochastic component comprises of a policy for choosing among alternative decisions.
14. (Currently amended) The system of claim ~~3~~11, wherein two simulations ~~for an alternative decision~~ are analyzed interleaved such that one simulation starts before another ends.
15. (Original) The system of claim 11, wherein the simulation model comprises of a Bayesian network.
16. (Currently amended) The system of claim ~~13~~11, wherein the ~~Bayesian network~~simulation model comprises a component selected from the group consisting of hierarchical variables, abstract data types, ~~differentials~~ differential vector of previous states, user-defined functions, or POMDPs Markov decision processes, partially-observable Markov decision processes, heuristics evaluation function, user model for simulating users of the active decision making process, execution model for simulating an external application, and control model for simulating the active decision making process.
17. (Original) The system of claim 11, further integrating the active decision making process with an external application.
18. (Original) The system of claim 17, wherein the external application comprises a simulation system.

19. (Original) The system of claim 17, wherein the simulation model is updated using the data obtained by monitoring the external application.
20. (Original) The system of claim 11, wherein the simulation model is updated using the result of the simulation.